6435
BOARD DIPLOMA EXAMINATION
JUNE - 2019
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
LINEAR ICS AND APPLICATIONS
FOURTH SEMESTER EXAMINATION

Time: 3 Hours   **Total Marks: 80**

PART - A   (3m x 10 = 30m)

Note 1:Answer all questions and each question carries 3 marks

2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. Distinguish between linear ICs and digital ICs

2. Give the typical practical values for following parameters of Op-amp IC741

    a) Open loop voltage gain b) CMRR c) Slew rate

3. What is an non-inverting amplifier and draw the input and output waveforms of non-inverting amplifier

4. List the applications current time –base circuit

5. Draw the output waveform of following circuits for a give square wave input

    a) Integrator   b) Differentiator

6. Give the pin configuration of LM566 IC

7. Write any 3 applications of 555 IC

8. Give the function of following pins of serial ADC chip MAX1112

    a) AGND b) DGND

9. Define the terms monotonicity and settling time of D/A converter

10. **List the advantages of instrumentation amplifier**

PART - B   (10m x 5 = 50m)

Note 1:Answer any five questions and each carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. a) Distinguish between linear ICs and digital ICs

    b) List the advantages and disadvantages of Integrated circuits over discrete assembly

12. Explain the functional block diagram of an operational amplifier

13. Draw the circuit diagram of Integrator using Op-amp and Explain with necessary equations

14. Explain the working of Astable multivibrator using Op-amp with waveforms

15. Draw the block diagram and Explain operation of FM demodulator using PLL

16. Draw and explain the functional block diagram of LM566

17. Explain the Current to Voltage converter circuit

18. Draw and explain the instrumentation amplifier using three Op-Amps

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